SCIENCE & GOVERNMENT REPORT

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The '74 Budget: Not as Bad as Predicted—It's Worse

Nightmares concerning Mr. Nixon's fiscal plans were superseded this week by official budget documents confirming that the room is indeed full of monsters.

Virtually across the board, federal activities are to be cut, eliminated, held at a standstill, or, in some cases, treated to growth just sufficient to cope with inflation. Neither more nor less than other segments of the fiscal 1974 budget, research, development, higher education, and related programs are subjected to the formula, with the result that the short rations of recent years are programmed to continue or even decline.

For example, there is to be a $250 million drop from 1972 figures in new funds to be sought for the National Institutes of Health, with almost all components being cut except the Cancer and Heart and Lung institutes. The budget request for the National Science Foundation is $641.5 million, but this sum includes $62.4 million that the Office of Management and Budget withheld from NSF's budget this year. The Foundation is terminating its support of traineeships and, on short notice, is putting the Antarctic research vessel *Eltanin* into "ready reserve," surely to be rechristened the *Lazarus* if it ever sails again. Meanwhile, the Atomic Energy Commission has raised the budget of the National Accelerator Laboratory from $19.2 million to $29 million, but the five other major accelerators under AEC sponsorship have had their budgets trimmed.

It must be understood, of course, that presidential budgets are among the more ephemeral works of man, what with second thoughts at the White House, the vagaries of Congress, and "impoundment" fervor at the Office of Management and Budget. Nevertheless, the design on paper as of this moment is as follows, in terms of planned expenditures during fiscal year 1974, starting next July 1, rather than "obligations," which are a commitment to spend but not necessarily in any particular year. (See table, page 2.)

During FY '74, the administration plans to spend $16.7 billion for the "conduct of research and development," as compared with what it estimates will be expenditures this year totaling $15.8 billion. Of the increase, which totals $904 million, the Defense Department accounts for $460 million. Furthermore, it should be noted that the main reason that next year looks bigger than this year is that a good deal of money that was originally scheduled for spending this year was impounded by OMB and has been tacked onto the new budget as with NSF's $62.4 million cited above. Thus, a look into last year's budget book shows an estimate of $16.4 billion in expenditures for "conduct of research and development," which is $594 million above what the administration now figures it will actually spend.

The long-neglected category of R&D construction, renovation, and acquisition of major equip-

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Heard You the First Time, Cap

At a budget press briefing, OMB Director Caspar W. Weinberger was asked to explain a sharp decline in government housing subsidies. Weinberger, known as "Cap the Knife," stated that substandard housing had been reduced to the point where "we want to stop and take stock to see how we attack the remaining portion of the program—ah problem."

In Brief

That long-discussed US-Israeli science foundation is just about signed and sealed, with the budget set at $4.2 million a year drawn from a jointly contributed endowment of $60 million. Operations are to be examined after a 5-year trial period. Still to be named is a 10-member board divided between the two countries . . .

The 54-nation UN Committee on Science and Technology is scheduled to meet for three weeks in March, but with the US science bureaucracy in a shambles, not even preliminary staff work has begun for this country's participation . . .

Kennedy's National Science Policy and Priorities Act has reappeared on Capitol Hill, bearing its old designation, S. 32, in the Senate, and H.R. 178 in the House, where it's been introduced by Rep. John W. Davis (D-Ga.) chairman of the science, research, and development subcommittee that is in line to handle the hearings. To confuse matters, there's a House variation, bearing the designation H.R. 32, introduced by Rep. Alphonzo Bell (R-Calif.) . . .

John Maddox has resigned as editor of the prestigous English journal *Nature* to pursue as yet unannounced publishing ventures of his own.

THE '74 BUDGET *(cont'd from page 1)*

ment is pointed upwards, but here, too, there is less to the figures than meets the eye. Expenditure estimates for fiscal 1974 are $764 million, compared with the current-year estimate of $697 million. But of this hungrily sought sum, the Atomic Energy Commission is slated for $320 million, mainly for nuclear power development; DoD gets $158 million of the total, NASA is listed for $70 million, and the remaining $216 million is apportioned among some dozen departments and agencies.

CONDUCT OF RESEARCH AND DEVELOPMENT
(in millions of dollars)

	Obligations			Expenditures		
	1972 actual	1973 estimate	1974 estimate	1972 actual	1973 estimate	1974 estimate
Defense—Military	8,294	8,338	8,808	8,117	7,873	8,333
NASA	3,183	3,383	2,595	3,373	3,008	3,066
HEW	1,763	1,832	1,969	1,513	1,670	1,873
AEC	1,298	1,359	1,411	1,298	1,359	1,411
NSF	456	461	516	418	423	446
DOT	351	367	425	274	290	359
Agriculture	353	378	351	349	360	343
Interior	220	259	262	210	262	255
Commerce	184	214	211	165	179	187
EPA	122	177	138	133	146	164
VA	71	76	78	66	71	75
HUD	47	43	71	47	43	61
Justice	24	39	54	13	30	46
All other	134	184	141	127	173	171
Total, conduct of R&D	16,500	17,110	17,430	16,103	15,886	16,790
Total, research	6,483	6,689	6,737	6,169	6,300	6,555
Total, development	10,017	10,421	10,693	9,934	9,586	10,235

The category of "conduct of research and development at colleges and universities" follows the general theme of fiscal pufferey. Last year, the administration estimated that the expenditures for the current fiscal year would total $1.9 billion. It now figures that they will actually amount to $1.7 billion. But since it is asking for $1.8 billion for the coming year, it can contend that academic R&D is going up by about $100 million.

Budget Flim Flam: A Quick Guide To Making Less Look Like More

The administration's handling of the new budget can be likened to your boss withholding part of your paycheck one week, tacking the balance due onto the next paycheck, and then taking credit for a sharp jump in your takehome pay.

Consider the following fiscal sleight of hand: At this time last year, the administration estimated that it would spend $16.4 billion on "conduct of research and development" in the present fiscal year. Well, with the year halfway over, it now estimates that the actual expenditure will be only $15.8 billion. And, since it estimates that in the coming fiscal year it will spend $16.7 billion, it is taking credit for an "increase" of $900 million.

The Priorities: Arms & Quick Payoff

What sense of priorities appears to be written into the new federal budget as far as research and development are concerned? Briefly, it looks like this:

Defense and AEC military-related activities are, as usual, taking the lion's share of what little growth is planned. As measured in obligations, they rise from an estimated $8.9 billion this year to $9.4 billion next year.

Meanwhile, the space program, outside of aeronautical and environmental programs, is being cut from $3 billion to $2.5 billion, reflecting the reorientation of NASA from a highwire act for scientific and public entertainment to a largely utilitarian program.

"Civilian" programs, including the NASA items exempted above, will rise from $5.2 billion to $5.5 billion.

Among the big growth items in civilian research are energy, rising from $642 million to $772 million, of which $25 million is for fossil and non-nuclear energy research in the Interior Department; cancer and heart disease, up together from $588 million to $680 million; transportation, rising from $666 million to $749 million, and "crime prevention and control," up from $29 million to $41 million.

Basic research gets essentially a standstill budget, rising by only $14 million in the NSF figures, and with the exception of what may happen under the aegis of cancer and heart research, generally close to static in other agencies.

In general, it is a conservative budget, reflecting no sympathy for the age-old litany that science invariably pays off—so don't mind the cost. The emphasis is on technological supremacy in armaments, and quick payoff in research related to social and industrial applications.

The introduction to the R&D segment of the FY '74 budget is unusually candid this year. Whereas past editions usually carried some words of affection for R&D, along with considerable emphasis on just how swiftly the budget was being expanded, the latest edition has something of an admonitory tone to it, stating that the "1974 budget recognizes that how we spend our resources for research and development is just as important as how much we spend . . . The 1974 budget, in summary, balances support for programs in areas of national importance—where research and development can make a contribution—with recognition that all programs are not equally urgent, that the private sector has incentives to innovate, and that improved R&D management is needed."—DSG

Nixon Abolishes OST, Assigns Duties to NSF Director

The demise of the Office of Science and Technology, and the shift of its responsibilities to within the National Science Foundation, is a typical transplant case, involving a comatose donor, frail recipient, poor prognosis, and horrified relatives.

In the White House deliberations which preceded the long rumored move, formally announced Jan. 26, the original thought was to do away with OST and simply drop the matter there. But support then developed for a view associated with W. O. Baker, the technological *eminence grise* of the Republican Establishment, who has recently risen from vice president for research to president of Bell Labs. Baker, to whom the White House listens, held that a central shop for science has to exist somewhere in the federal hierarchy. Then it was proposed that the advisory function be incorporated into the Office of Management and Budget (OMB). But OMB puffily responded that it preferred generalized to specialized talents. Whereupon, it was decided to do what has now been done, namely, dissolve OST and the post of science advisor to the President, and transfer "all functions presently vested" in OST to the Director of NSF. No mention was made of the President's Science Advisory Committee, which existed as an appendage to the White House science operation, but, considering the dislike that it engendered among Nixon's political henchmen, its survival is unlikely.

In his reorganization message to Congress, Nixon, under the heading of "Streamlining the Federal Establishment," justified the shift on the grounds that OST had so well succeeded in strengthening the "scientific and technical capability" of the government, that its services could safely be relocated outside the Executive Office of the President, where it was formally placed in 1962 upon the recommendation of John F. Kennedy. In doing so, it should be recalled, Kennedy told the Congress that the creation of OST was necessitated by the failure of NSF to carry out its statutory responsibilities, since, as he put it, "the Foundation, being at the same organizational level as other agencies, cannot satisfactorily coordinate Federal science policies or evaluate programs of other agencies. Science policies," stated Kennedy's message of 11 years ago, "need to be coordinated and shaped at the level of the Executive Office of the President . . . Similarly, staff efforts at that higher level are required for the evaluation of Government programs in science and technology."

Well, times and presidents have changed, and the scientific community is no longer the favored ward of government that it was in Kennedy's days. But just how the new advisory setup is to function is an ambiguous matter about which the administration apparently feels no urgency. Congress willing, the reorganization will become effective next July 1; meanwhile, OST's 50-member staff is without director or deputy director, PSAC has not been invited for its regular monthly meeting, and NSF has neither budget nor staff for taking on its new responsibilities.

Nixon's reorganization message simply states that "after the transfer of responsibilities is effected," he will ask NSF Director H. Guyford Stever "to take on the additional post of Science Adviser. In this capacity, he would advise and assist the White House, Office of Management and Budget, Domestic Council, and other entities within the Executive Office of the President on matters where scientific and technical expertise is called for, and would act as the President's representative in selected cooperative programs in international scientific affairs, including chairing such joint bodies as the US-USSR Joint Commission on Scientific and Technical Cooperation."

The Nixon Message, however, makes it clear that Stever is to stay out of military affairs—where OST and PSAC used to try to exercise their arms-controlling instincts, much to the distress of DoD—unless specifically invited in.

"In the case of national security," the Message states, "the Department of Defense has strong capabilities for assessing weapons needs and for undertaking new weapons development, and the President will continue to draw primarily on this source for advice regarding military technology. The President in special situations also may seek independent studies or assessments concerning military technology from within or outside the Federal establishment using the machinery of the National Security Council for this purpose, as well as the Science Adviser when appropriate."

Though the reorganization plan makes Stever the Science Adviser to no one in particular, the actual routing of his advice will be to the newly created White House czardom for economic affairs, headed by Treasury Secretary George P. Shultz, whose chief representative on the Executive premises is a lawyer-economist out of OMB, Kenneth Dam, an international trade specialist.

Stever told a press briefing the day after the reorganization announcement that there is no money specifically for the added responsibilities, but that the NSF staff is large and versatile, is already involved in many studies relevant to advising the Executive Office, and that "the new arrangement is better in some ways"—though he wasn't specific. He said that NSF has some funds for new staff and that he might take on some of the OST staff. Also that he plans to form "A Science Policy Council within the Federal Government . . . to consider policy problems in science and technology which affect more than one Federal agency or which concern the overall advance-

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Rep. Davis, FAS Protest Elimination of White House Science Office

The demolition of the White House science advisory apparatus quickly drew protests from Rep. John W. Davis (D-Ga.), who is in a position to be troublesome about the matter, and the 4500-member Federation of American Scientists (FAS), which isn't. But since the immediate issue is the organization of the President's official household, it is likely that tradition will prevail and the shift of OST's responsibilities to the director of NSF will slip by under the banner of presidential prerogative.

Davis' handle on the matter comes from the House Science and Astronautics Committee, which reviews the annual authorization act for NSF; within the Committee, the task is assigned to the subcommittee on science, research, and development, whose chairmanship Davis will reassume when the House gets itself organized.

In a statement issued Jan. 24, two days prior to the official White House announcement of OST's demise, Davis termed the move "a downgrading of science and engineering in national policy," and said that the change will "pull the rug from under the feet of our scientists and technicians whose efforts help us to produce more goods and services per man hour."

Jeremy J. Stone, director of FAS, was on hand at the White House press briefing when OMB Director Roy Ash announced the reorganization. Stone handed out a press release stating, "We view with dismay and alarm this further decline in the role of scientists in Government. We believe it reflects that fact that the PSAC (President's Science Advisory Committee) scientists have been calling the shots as they see them . . . We believe that disinterested expertise should be sought rather than suppressed."

Davis hinted, though not strongly, that he may hold "broad hearings" in connection with the reorganization. But of the many hearings proclaimed at the start of each Congress, it should be noted, relatively few are held, since almost all committees generally run behind in their required tasks and have little time or staff resources for extra-curricular endeavors.

The congressional realities of the matter are that Davis can take a whack at the reorganization through his subcommittee's jurisdiction over NSF, but the White House shrewdly did not transfer OST's functions to NSF. Rather, it handed them over to the Director of NSF, designated him "Science Adviser," though to no one in particular, and left the matter there. Since Congress is now rumbling with anti-Executive sentiments, Davis may use the annual authorization hearing for grilling NSF Director Stever about his new duties, and for letting outside critics, such as FAS, release steam in public. But Stever has demonstrated himself to be an eversmiling and resilient punching bag in the witness chair, and whether the assignment would be doubling the size of NSF or totally dismantling it, the administration can be certain that Stever could carry it off flawlessly.

The first option for opposing the reorganization goes to the Government Operations committees of each house, which have 20 days from the date of submission of the reorganization to express opposition and set in motion a vote. If they don't act, any member, after 20 days, can request a floor vote on the reorganization by introducing a "disapproving" resolution. However, if the reorganization isn't formally voted down within 60 days, it goes through.

The assessment of staff veterans is that "we usually leave the presidential advisory system alone."

AEC Research: A Standstill Budget

The AEC's physical research budget is scheduled to rise from $240.8 million to $250 million, essentially a standstill budget containing bits of growth and some snips. Overall, the figures look like this, in thousands of dollars:

	1972 actual	*1973 estimate*	*1974 estimate*
High energy physics	116,392	124,400	128,500
Medium energy physics	13,080	15,900	18,000
Low energy physics	25,233	25,300	26,500
Mathematics and computer research	4,809	4,600	4,000
Chemistry research	49,173	46,400	46,500
Metallurgy and materials research	25,074	24,200	26,500
Total physical research program	233,761	240,800	250,000

Of the six major accelerators that account for a good portion of the budget the figures are as follows, in millions of dollars:

	FY '73	FY '74
NAL	$19.2	$29
CEA	2.0	.6
AGS	24.6	24.2
ZGS	15.6	14.4
Bevatron	15.2	13.4
SLAC	24.9	24.2

Biomedical Research: Radical Surgery on NIH Budget

The worst fears of the biomedical community were confirmed on Jan. 29 when the Nixon administration unveiled its proposed budget for health research and education in fiscal year 1974. Although the politically glamorous cancer and heart campaigns are slated for increased funding, the total budget of the National Institutes of Health will decline, and there will be drastic cutbacks in several programs of major import to the research community.

Programs slated for death or dismemberment include training grants and fellowships supported by NIH and NIMH, which are to be phased out entirely; competitive grants at NIH, which are to drop by more than 40 per cent over a two-year period; NIH "general research support" grants to institutions, which will be cut by more than 80 per cent over two years; hospital construction grants, which are to be terminated; and the Regional Medical Program to spread the benefits of research, which is also to die.

These proposed cutbacks, which strike at the heart of some of the most cherished programs of the biomedical research community, are sure to provoke a storm of opposition. Already, several prominent professional organizations, including the Association of American Medical Colleges, the Association of Professors of Medicine, and the American Society for Clinical Investigation, have fired off telegrams of protest to the White House and Congress. The telegrams, which were sent in advance of the budget's release in hopes of gaining a last-minute restoration of the training funds, had no effect on the Nixon administration. But the same groups expect to intensify their lobbying on Capitol Hill, where the reception may be more cordial.

The likelihood that there will be any substantial change in the budget outlook as a result of Congressional action is clouded by two major uncertainties. To begin with, there is a still unresolved struggle between the Congress and the White House concerning priorities in the health-education-welfare area. Last year Congress twice passed appropriations bills for HEW that the President vetoed as excessive and inflationary. Thus, for fiscal year 1973, the current year, HEW programs are proceeding under a so-called continuing resolution which provides funds until the hassle over the appropriations bill can be resolved. The struggle will be renewed in the coming months, with the result that this year's session of Congress will feature two major battles over health spending—one over the fiscal 1973 appropriations bill, and the other over the Nixon administration's proposed fiscal 1974 budget.

The second major uncertainty is whether Congressional actions in either battle will have much effect on actual spending. In its effort to hold spending below a $250-billion ceiling in fiscal 1973, the Nixon administration impounded substantial sums already appropriated by Congress. Whether the executive branch has the constitutional right to take such action is a matter of dispute. At least five suits have been filed in the federal courts challenging the constitutionality of the maneuver, and 50 senators have co-sponsored legislation to prevent such impoundments. If the executive branch prevails, the old dictum that, in budgetary matters, "the President proposes but the Congress disposes" will have to be revised to read that "the President proposes *and* disposes." In that case, the administration's proposed budget for fiscal 1974 may turn out to be very close to a final blueprint of the spending that will actually be allowed.

The administration's economy drive will cut deeply into key research and education programs at NIH, the heartland of basic biomedical research. The total NIH budget is slated to drop by more than $250 million over a two-year period. The total NIH budget authority reached $2.2 billion in fiscal 1972, and the Nixon administration had originally planned to spend $2.18 billion in fiscal 1973. But as a result of the economy drive, the administration now proposes spending only $1.99 billion in fiscal 1973 and $1.96 billion in fiscal 1974.

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National Institutes of Health

Summary by Appropriation
(Budget Authority in millions)

	1972	1973 Original Pres.Bud.	1973 Vetoed Bill	Revised 1973	1974
Institutes and Research Div.					
Cancer	$ 372.8	$ 426.1	$ 486.1	$ 426.1	$ 500.0
Heart	224.4	247.1	311.8	247.1	265.0
Dental	42.4	44.0	49.4	40.3	38.5
Arthritis	145.0	156.0	170.1	139.8	133.6
Neurology	111.6	115.8	134.3	105.5	101.2
Allergy	104.0	110.7	120.1	100.7	98.7
General medical sciences	166.4	173.4	189.7	151.6	138.6
Child health	112.5	125.7	140.8	109.6	106.7
Eye	35.6	36.8	40.5	33.8	32.1
Environmental health	25.9	28.8	31.2	25.9	25.3
Research resources	130.2	101.2	104.4	99.0	88.6
Fogarty international center	4.4	4.5	5.2	3.9	3.6
Total Research	1,475.1	1,570.0	1,783.5	1,483.3	1,531.8
BHME					
Health manpower	673.3	533.5	846.3	440.5	382.2
Payment of sales	4.2	4.0	4.0	4.0	4.0
Total BHME	677.5	537.5	850.3	444.5	386.2
National Library of Medicine	24.1	28.5	28.7	25.0	25.0
Buildings and Facilities	3.6	8.5	12.6	8.0	8.0
Office of the Director	11.1	12.6	13.1	12.0	12.0
Scientific Activities Overseas	25.5	25.6	25.6	25.6	1.9
TOTAL NIH	2,216.9	2,182.7	2,713.8	1,998.4	1,964.9

BIOMEDICAL RESEARCH *(cont'd from page 5)*

There is considerable flim-flam in some of the budget documents issued by the administration. Most of them indicate that NIH will receive only a modest cut of about $32 million. But it must be remembered that this number represents the amount by which the administration's proposed fiscal 1974 budget will be reduced from its *revised* 1973 budget, and that revised budget itself represents a substantial cut from both the levels of actual spending in fiscal 1972 and the levels originally proposed for fiscal 1973. Thus, the reduction at NIH is an order of magnitude larger than most budget documents indicate. (See accompanying table, which lists NIH's actual budget authority in fiscal 1972, the President's original budget request for 1973, the higher amounts appropriated by Congress in legislation that was vetoed as inflationary by the President, and the Nixon administration's latest budget plans for 1973 and 1974.)

Within the total NIH budget, the only major programs scheduled for increases are the cancer and heart efforts, which are developing into national campaigns with the support of both the White House and Congress. The budget of the National Cancer Institute would jump to $500 million in fiscal 1974, a hefty 74 per cent increase over the 1972 spending figure. Most of the increase in cancer funds will be allotted to chemotherapy, the special virus program, cancer task forces, cancer research centers, and cancer control. The heart campaign, which started a year later than the cancer effort, and has not yet built up the same momentum, is budgeted for a more modest increase, from $224 million in 1972 to $265 million proposed for 1974. Most of the boost in heart funding will support investigations on arteriosclerosis, hypertension, pulmonary diseases, and blood and thrombosis.

But except for the politically popular, highly visible heart and cancer campaigns, the NIH budget is in a state of decline. The spending proposed at each of the other major institutes that comprise NIH would drop in 1973 as compared to 1972, and would decline still further in 1974, though some of the cuts are relatively modest.

As so frequently happens in times of budget stringency, the competitive grant programs that support basic research projects proposed by individual investigators have proved highly vulnerable to the budget ax. Total NIH funds allocated for support of new competing grants will drop precipitously, from $208 million in fiscal 1972 to $159 million in 1973 to $120 million in 1974, a decline of more than 40 per cent over the two-year period. The so-called "non-competing projects"—namely those which are in the second or third year of a multi-year investigation—will not generally be affected by the cutbacks. This is consistent with a philosophy exhibited throughout the HEW budget of letting ongoing projects come to an orderly close while clamping down sharply on new starts.

The cuts which have caused the most anxiety in the biomedical community involve the fellowship and traineeship programs supported by NIH and NIMH. The 1974 budget provides money to complete the training of those students who have already been awarded stipends. But it contains no money for new traineeships or fellowships, and it proposes to terminate the programs as soon as all current commitments have been fulfilled.

The killing of these programs reflects a belief that the nation already has an adequate supply of biomedical researchers and educators. As an HEW budget document describes the situation: "Research budgets, except in special areas, are now being stabilized, and the general need for a greater number of trained biomedical research scientists has passed. In this sense, the Federal role in the support of massive increases in trained research manpower has been fulfilled. A continued federal push to train researchers may well lead to an oversupply of scientists who will be unable to find appropriate employment."

Another factor in the demise of the programs seems to have been a feeling that they are elitist in nature, serving primarily to prepare individuals, at public expense, for high-income careers in biomedicine. As the HEW budget document put it: "The income expectations of doctoral level scientists are such as to make it appropriate to expect them to bear the costs of their training themselves." Or as HEW Undersecretary John G. Veneman expressed it at a press conference: "The time has come to treat everybody generally alike."

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NSF Research Funds: Minor Growth

Out of NSF's total budget of $641.5 million, the critical area of scientific research project support is apportioned by discipline as follows, in millions of dollars:

	FY 1972	Estimate FY 1973	Estimate FY 1974
Atmospheric Sci.	$ 11.7	$ 12.2	$ 12.4
Earth Sci.	9.5	10.3	11.3
Oceanography	12.6	13.1	14.5
Biological Sci.	54.0	57.3	58.8
Physics	33.3	35.0	36.5
Chemistry	24.5	25.3	26.7
Astronomy	8.0	8.6	9.0
Mathematics	13.7	14.0	14.4
Social Sci.	22.5	23.3	25.4
Engineering	25.4	26.9	29.5
Materials Res.	33.4	35.0	36.5
TOTAL	$248.6	$261.0	$275.0

Economic Czar Shultz: An Overlooked Comment on Technology & National Problems

The key political figure in the new lineup for handling science and government affairs is Treasury Secretary George P. Shultz in his dual role of presidential counselor for economic affairs. It is Shultz to whom NSF Director H. Guyford Stever is supposed to report in his dual capacity of Science Adviser. Where, then, does Shultz stand on some of the matters that Stever may be concerned with. A clue is buried deep inside a newly issued report of the General Accounting Office, *Means for Increasing the Use of Defense Technology for Urgent Public Problems.* Last April, when the report was being prepared, Shultz, then director of OMB, was asked by the GAO study group to comment on its proposals for speeding the transfer of defense technology. To which he responded:

"At this point, I believe it is important to stress that improved technology transfer by itself is not likely to go far toward solving significant national problems. In some cases, available technology will not be suited, because of cost or other factors, for application to domestic problems. Also, technology is likely to play a small role in the solution of most national problems. Accordingly, the Administration's efforts to improve technology transfer are only a small part of a broader strategy to encourage and support the social, economic and technological innovations which will be necessary in order to resolve most of our serious domestic problems."

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The sums involved are substantial. In fiscal 1972, for example, NIH awarded $140 million in training grants and $46 million in fellowships. This money supported predoctoral and postdoctoral students in the biological and medical sciences and related fields. And a portion of it—said to be sizable at some institutions—also paid for faculty salaries and overhead costs at the institution the grantee attended. NIH budget briefers told reporters they have no idea what impact the termination of training grants will have on biomedical institutions, but a number of institutions will presumably have to scramble hard to find alternative sources of funding. Meanwhile, students who seek training in biomedical research will have to find alternative sources of support, either through the general student assistance programs of the Office of Education, where the emphasis is currently on guaranteed loans, or through a salary covered by a professor's research grant.

Another jolt to institutions which have relied heavily on NIH funds will come with a sharp drop in NIH "general research support" grants. These grants, which are awarded to institutions and are designed to enhance the environment within which individual NIH grantees work, totaled about $50 million in fiscal 1972. They will be cut to about $20 million in 1973, and $9.5 million in 1974—a drop of more than 80 per cent in two years.

Other major health programs that will be terminated include the Regional Medical Program, which was supposed to facilitate transfer of the latest advances in heart, cancer, and stroke treatment from the medical schools to the community at large, but which will be killed on the grounds that it is not achieving its purpose; the Hill-Burton program to construct medical facilities, which is being killed because the supply of hospital beds now appears to be adequate on a national basis and excessive in some areas; and the community mental health centers program, which will be phased out on the grounds that it has achieved its purpose of demonstrating the advantages of community centers as opposed to large state hospitals. Grant commitments to existing community centers for continuation support will be honored until 1980, but thereafter funding is expected to come from other sources.—PMB

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NASA Gets Axed, Too

Space agency officials are visibly unhappy at the spending limitations imposed on NASA for fiscal years 1973 and 1974.

Although it is customary for agency heads to accept their budget defeats in silence, NASA Administrator James C. Fletcher told a press conference that because of "the sharp decrease from the level budget anticipated last year . . . we will have to curtail several activities that are of major importance to the nation." Nevertheless, he asserted that NASA's "main line program" will be kept "essentially intact" and that each of the programs curtailed will ultimately be done, at some time and in some way.

NASA's total expenditures will fall from $3.42 billion in fiscal 1972 to $3.062 billion in 1973, and would then rise slightly to $3.14 billion in 1974.

The major programs affected by the cuts include:

—The High Energy Astronomy Observatory, designed to study cosmic rays, X-rays, and gamma rays, will be suspended for at least one-year while NASA tries to restructure the project so as to reduce costs.

—Work on communications satellites will be phased out on the grounds that private industry can conduct further research and development on a commercial basis. The ATS-G program is being cancelled; ATS-F will be carried to completion.

—Research and technology activities will be generally reduced, "especially those where prospective needs are in the very distant future." Work on nuclear propulsion and large-scale nuclear power sources, for example, will be terminated.

—The Questrol project, an experimental quiet propulsive lift short take-off and landing research aircraft, will be canceled.

—The second Earth Resources Technology Satellite will be delayed two years, until 1976, while a new series of meterological satellites, known as Tiros-N, will be delayed one year, until 1977.

The two big manned programs emerged relatively unscathed. The $2.6 billion Skylab program will proceed with a launch in May of this year, and the $5.15 billion space shuttle will suffer a delay of less than a year, with the first manned orbital flight now planned for late 1978. Other major activities that will proceed include the Apollo-Soyuz joint flight with the Soviets, planned for 1975; the Viking project to land an unmanned spacecraft on Mars in 1976; and the Mariner unmanned mission to Jupiter and Saturn, planned for launch in 1977. In the area of space sciences, the Orbiting Solar Observatory is scheduled for 1974.

NIXON ABOLISHES OST *(cont'd from page 3)*

ment of the Nation's science and technology." He was vague about what, if any role the National Science Board, NSF's policymaking body, might play.

Stever indicated that the Council would resemble the Federal Council for Science and Technology, an OST appendage that was forever gearing up to do things but never did.

When asked at the briefing whether the shift "represented a downgrading of science," Stever replied, "If you want to interpret it as a downgrading, that's your privilege."

That being so, many are privileged.—DSG

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